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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,014	02/04/2000	Dae-Young Kim	CX020003	9613

23125 7590 12/06/2001

MOTOROLA INC
AUSTIN INTELLECTUAL PROPERTY
LAW SECTION
7700 WEST PARMER LANE MD: TX32/PL02
AUSTIN, TX 78729

EXAMINER

TRAN, KHAI

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 12/06/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/499,014

Applicant(s)

KIM ET AL.

Examiner

KHAI TRAN

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2631

DETAILED ACTION

1. The amendment A filed on 10/5/01 has been entered. Claims 1-11 are pending in this Office action.

Claim Rejections - 35 USC § 103

2. Claims 1-11 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Olafsson (U.S. Pat. 6,163,570).

Regarding claim 1, Olafsson discloses a PCM modem system including an analog modem coupled a digital modem (see Figure 1), a method for controlling the transmit power of the analog modem, comprising the steps of: detecting the transmit power level of the analog modem (col.2, lines 1-55). Olafsson does not explicitly disclose a step of adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level. However; Olafsson discloses that after the appropriate signal point constellations are selected, the total average transmit power level may be computed by the analog modem to ensure that the transmit power of the constellations set does not exceed the maximum transmit power limit by comparing a computed transmit power with a transmit power limit to determine whether the computer transmit

Art Unit: 2631

power is less than or equal to the transmit power limit (col. 2, lines 1-28, and col.6, lines 47-54). Therefore, in order to verify the transmit power level, one of ordinary skill in the art would compare the transmit power level with the desired power level in order to adjust the transmit power level sent from one modem to another modem device (see col.2, lines 61-63, col.3, lines 6-30, and a comparator 224) in order to limit the transmit power levels from the one modem to another modem and comply with the transmit power regulations.

Regarding claims 2-3, Olafsson also discloses that a transmit power verification procedure and scheme enables and accurately verifies the transmit power of a signal point constellation set regardless of the computational resolution of the components used in the two modem devices (col.2, line 58 to col.3, line 8). In order to verify the transmit power levels sent from the one modem to another modem, therefore, the transmit power is inherently set by either one of the modem devices (i.e., the analog modem or the digital modem).

Regarding claim 4, Olafsson discloses the PCM modem system adjusting the power level of the analog modem by transmitting mapping parameters including the equivalence classes used in the analog modem and wherein the transmit power level is proportional to the number of equivalence classes (col.7 ,lines 41-59, and col.8, lines 24-45, i.e., the modem 202 may lower the transmit power limit to ensure that its

Art Unit: 2631

computational precision does not cause an erroneous acceptance or rejection of training points or a signal point constellation set designed by modem 204).

Regarding claim 5, Olafsson discloses wherein the digital modem sets the analog modem transmit power by changing the number of equivalence classes employed (col.7, line 42 to col.8, line 10, i.e., a power calculation element 242 computes the total average transmit power of the signal point constellations in accordance with the designated power formula 240 and in a similar manner as transmit power calculation element 222 (resident at modem 202), also see col.10, line 58 to col.11, line 3)).

Regarding claim 6, Olafsson further discloses wherein the digital modem estimates the transmit power of the analog modem during a startup mode (col.8, lines 11-45).

Regarding claim 7, Olafsson discloses the step of transmitting the difference between the detected power level and the desired power level to the digital modem for use by the digital in changing the number of equivalence classes employed, thus to adjust level of the analog modem transmitter (col.7, lines 41-59, and col.8, lines 24-45)

Regarding claim 8, Olafsson also discloses wherein the adjustment of the transmit power level of the analog modem is such as to maintain the transmit power level within FCC set limits (col.5, lines 23-35, i.e., the transmit power level with a regulatory limit -12 dBm0 FCC limit).

Art Unit: 2631

Regarding claim 9, Olafsson does not explicitly disclose that the adjusted transmit power level at the analog modem optimizes the PCM modem system by minimizing echo power to minimize noise components due to echo cancellation and by minimizing non-linearities and downstream performance degradation. However, Olafsson discloses that the transmit power level is adjusted at regulatory limit, such as the -12 dBm0 FCC (col.8, lines 24-45). Therefore, the adjustment of the transmit power level inherently minimizes the noise signal and also reduces the error signal.

Claims 10-11 are similar to claims 1-3. Therefore, claims 10-11 are rejected under a similar rationale.

Response to Arguments

3. Applicant's arguments filed 10/5/01 have been fully considered but they are not persuasive.

Applicant asserts that Olafsson does not suggest the step of adjusting the transmit power level of the analog modem in accordance with the difference between the detected transmit power level and a desired transmit power level.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill

Art Unit: 2631

in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Olafsson discloses a use of the transmit power verification (220) for verifying the transmit power level (i.e., if the transmit power level is less higher a desired transmit power level). Therefore, the transmit power level is compared (a permitted transmit power level) and calculated by using the transmit power calculation. Therefore, in order to verify the transmit power level, one of ordinary skill in the art would compare the transmit power level with the desired power level in order to adjust the transmit power level sent from one modem to another modem device (see col.2, lines 61-63, col.3, lines 6-30, and a comparator 224) and comply with the transmit power regulations.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2631

Conclusion

5. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

or:

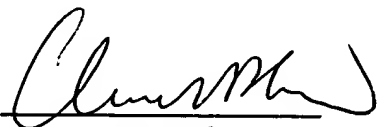
(703) 308-6743, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to **Khai Tran** whose telephone number is **(703) 305-1876**.
The examiner can normally be reached on Monday-Thursday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, **Chi Pham**, can be reached on **(703) 305-4378**.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the Group receptionist whose telephone number is
(703) 305-4900.


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 12/5/01


December 3, 2001